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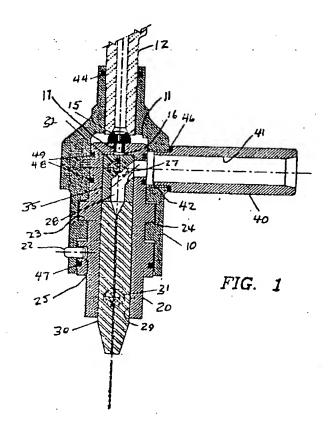
EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 14.04.1999 Bulletin 1999/15

(51) Int CI.6: B24C 5/04, B05B 15/06

- (43) Date of publication A2: 03.12.1997 Bulletin 1997/49
- (21) Application number: 97303601.5
- (22) Date of filing: 28.05.1997
- (84) Designated Contracting States: CH DE FR GB LI SE
- (30) Priority: 29.05.1996 US 655066
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 Woodcliff Lake New Jersey 07675-8738 (US)
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 Brighton, Michigan 48116 (US)
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- (54) Quick change nozzle assembly for waterjet cutting
- (57) A quick change nozzle assembly for waterjet cutting has a nozzle body (20) separable from a nozzle cap (10), the nozzle body (20) providing a quick change assembly including a feed tube handle (40) making

change possible without the use of tools, the separable nozzle body having included and aligned therein the required nozzle wear components such as a wear insert (35) and a focus tube (20).



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EUROPEAN SEARCH REPORT

Application Number EP 97 30 3601

Category	Citation of document with	indication, where appropriate,		Relevant	CLASSIFICATION OF THE
aregory	of relevant pas	seges		to claim	APPLICATION (Int.Cl.6)
χ	US 5 092 085 A (HA	SHISH, MOHAMED A.	ET	1,2	B24C5/04 B05B15/06
	AL) 3 March 1992	7 ooluma 7 lina	25.		805815/00
	* column 4, line 4 figure 1 *	/ - Corullin /, rine	25,		
	-		•		
Α	EP 0 450 946 A (SP	RAYING SYSTEMS CO)		1	1
	9 October 1991 * column 4, line 4	3 - column 8 line	47.		
	* Column 4, 11me 4. figures 1,6 *	5 - Cordini o, Tine	7/,	İ	
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A	EP 0 437 168 A (POS	SSIS CORP) 17 July	1991	1	
	* column 3, line 3! figure 1 *	5 - COTUMEN 4, TIME	14,		
					·
Α	DE 15 00 603 A (SPE	RAYING SYSTEMS CO)		1	
j	12 June 1969 * page 4, line 5 -	page 5. line 2: f	aures		
	* page 4, 11116 5	base of this st t	J=: 23		
					<u> </u>
					TECHNICAL FIELDS
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	TEGORY OF CITED DOCUMENTS	E : earlie	or principle patent doc ne tiling dat	ument, but publ	ished on, or
Y : panie	cularly relevant if taken alone cularly relevant if complined with anot	her D: socur	nent cited in	the application of the reasons	
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 97 30 3601

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-02-19**99**

ci	Patent documer led in search rep		Publication date		Patent family member(s)	Publication date
US	509208 5	Α	03-03-1992	US	5144766 A	08-09-19
EP	04509 46	Α	09-10-1991	AU AU CA DE DE JP US	630797 B 7405691 A 2039681 A 69110335 D 69110335 T 4227870 A 5190224 A	05-11-19 10-10-19 06-10-19 20-07-19 29-02-19 17-08-19 02-03-19
EP	0437168	Α	17-07-1991	US DE DE JP	5018670 A 69003233 D 69003233 T 3208559 A	28-05-199 14-10-199 05-01-199 11-09-199
DE	1500603	Α	12-06-1969	NONE		****************
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